

**I. Preliminary Matter**

Applicant respectfully requests that the Examiner approve the drawings filed May 22, 2000.

**II. Rejection of claims 1, 3, 10, 12, and 13-15 under 35 U.S.C. § 102**

Claims 1, 3, 10, 12 and 13-15 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Hamilton (U.S. Patent No. 5,448,366).

Figs. 4A-4I of Hamilton illustrate the dot transitions occurring within reference cells corresponding to transitions of a sequence of circular dots of increasing size and the transitions of a dot shape from one size to a larger size using circular and straight line components. See col. 5, lines 14-17; col. 4, lines 55-65.

Also, in Fig. 4I of Hamilton, the corners of the diamond or square are just touching the boundary wall of the unit cell. Col. 5, lines 17-19. In particular, in Fig. 4I, the dots are less than 50% of the area of the reference cell. Col. 5, lines 40-42. If the dots are larger than 50%, the dots' outline becomes concave rather than convex. Col. 5, lines 42-45.

Based upon the forgoing description of Hamilton, it is apparent that Hamilton does not anticipate the claimed invention.

**Claim 1**

Claim 1 recites "growing the halftone dots in a square or rhomboidal shape in a third transformation zone from the second highlight percentage to a second shadow percentage."

There does not appear to be any indication in Hamilton that halftone dots are grown in a square or rhomboidal shape in a third transformation zone including a transition from highlight to shadow. In Fig. 4I which illustrates 50%, the shape of the square is just touching the boundary wall of the unit cell. All of the dot changes occur on one side of a shadow or highlight region but does not include transformation between highlight and shadow. If the dots are larger than 50%, the dots' outlines become concave rather than convex. Consequently, Hamilton appears to suffer from the same deficiency in the prior art which an exemplary embodiment of the present invention is meant to solve. See specification Fig. 4 and corresponding text at paragraph bridging pages 16 and 17. In particular, it appears that a circular dot of concave form, and not a square or rhomboidal shape, grows in the first shadow region of Hamilton.

Moreover, the Examiner asserts that the halftone dot changing from the square or rhomboidal shape to a circular or elliptical shape in a fourth transformation zone from the second shadow percentage to a first shadow percentage greater than the second shadow percentage as depicted in Applicant's Fig. 2 (50e and 50f), corresponds to Hamilton going from the halftone dot in Fig. 4I to the halftone dot in Fig. 5B. However, Fig. 4I corresponds to a point of approximately 50% or less whereas a second shadow percentage in Applicant's Fig. 2 is in a different highlight/shadow region. Consequently, the Examiner's attempt to analogize teachings of Hamilton to the present invention is not appropriate. Hamilton does not teach changing from a square or rhomboidal shape to a circular or elliptical shape in a fourth transformation zone.

For at least these reasons, claim 1 and its dependent claims should be deemed patentable. Since claims 4, 7, and 10 recite similar elements, claims 4, 7, and 10 and their dependent claims should be deemed patentable for the same reasons.

### **Claim 3**

The Examiner asserts that in Hamilton, when the halftone dots are grown in the square or rhomboidal shape, they are successively grown along each of the sides thereof, thereby inherently minimizing any displacement of the center of gravity of the halftone dots, as recited in claim 3. The elements of claim 3 are illustrated for example, in Applicant's Figs. 5 and 6.

As indicated above, Hamilton is similar to the conventional art which an exemplary embodiment of the present invention is meant to cure. Therefore, contrary to the exemplary embodiment of the present invention, halftone dots are not "successively grown along each of the sides thereof." See for example, a conventional method of the halftone dot growth as illustrated in the attached drawing. See Appendix A.

For at least this reason, claim 3 should be deemed patentable.

### **Claim 14**

The Examiner asserts that Figs. 4D-4I illustrate that throughout the third transformation zone (second highlight percentage to second shadow percentage), angular portions of the square or rhomboidal shape maintain a substantially consistent angle, as recited in claim 14. As indicated in Applicant's Fig. 2, the second shadow percentage starts at approximately 52%. See

also claim 2. Fig. 4I is at most 50%. Consequently, there is no illustration of the claimed third transformation zone. For at least this reason, claim 14 should be deemed patentable.

**III. Rejection of claims 4, 6, 7, and 9 under 35 U.S.C. § 103**

Claims 4, 6, 7 and 9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamilton and further in view of Curry (U.S. Patent No. 5,696,604).

Since claims 4 and 7 recite subject matter similar to claim 1, claims 4 and 7 and their dependent claims should be deemed patentable for the same reasons set forth above with respect to claim 1.

Moreover, assuming that the combination of Curry with Hamilton was obvious, the combination would still fail to teach the claimed elements.

**IV. Rejection of claims 2, 5, 8, and 11 under 35 U.S.C. § 103**

Claims 2, 5, 8 and 11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamilton, or Hamilton in view of Curry.

Claims 2, 5, 8, and 11 describe that the second highlight percentage is at most 48% and the second shadow percentage is at least 52%. The Examiner asserts that nothing in the applicant's specification points to any critical reason or unexpected result owing to why these percentages are selected. Moreover, the Examiner asserts that these percentages are merely a design choice and do not make the claims patentably distinct.

However, a showing of unexpected results is an argument used by an Applicant in order to rebut a *prima facie* case of obviousness. MPEP 2144.09. At the present time, the Examiner has failed to establish a *prima facie* case of obviousness. More particularly, the Examiner has not provided any motivation or suggestion as to why the claimed percentages would be obvious other than asserting mere design choice. Moreover, the claimed percentages appear to be contrary to the percentages disclosed in the prior art cited by the Examiner.

Hamilton specifically relies on the transition across the 50% range to occur in connection with Fig. 4I. This permits encoding above and below the 50% level to be similarly encoded. Col. 5, lines 40-64. The shifting of the growth technique by shape or size or shadow/highlight would alter this fundamental principle of operation. Therefore, the levels claimed in claims 2, 5, 8, and 11 cannot be properly obtained in view of teachings in Hamilton.

Since the Examiner has not established where the elements of claims 2, 5, 8, and 11 are taught in the art, they should be deemed patentable.

#### **IV. Conclusion**

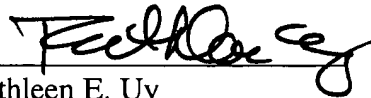
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.111  
Appln. No.: 09/575,529

Attorney Docket No.: Q58052

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Appendix A

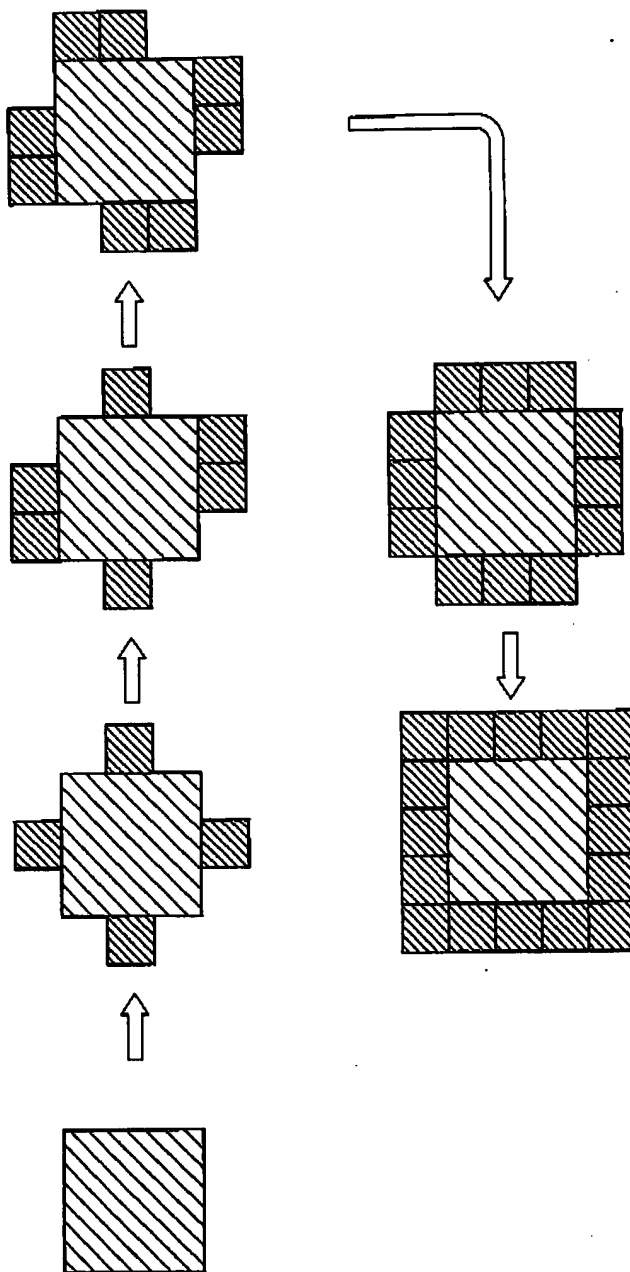
Q58052 Yoshiaki INOUE

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Conf. No.: 2338 Examiner: Scott A.

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EXAMPLE OF CONVENTIONAL HALFTONE DOT GROWTH